

- Ab
- Sub B^s
19. (New) A system for measuring seat occupant weight comprising:
a first seat track fixed to a vehicle structure;
⇒ a second seat track supported for movement relative to said first seat track, said first and second seat tracks being deflectable in a vertical direction due to an occupant weight force; and
at least one sensor mounted directly to said first seat track to generate a weight signal by measuring deflection of said seat tracks due to seat occupant weight.

20. (New) A system according to claim 19 wherein said first seat track includes a forward end and a rearward end with a central portion extending between said ends, said forward and rearward ends being mountable to the vehicle structure such that said central portion remains unsupported to form a gap between the vehicle structure and said central portion.

REMARKS

Claims 1-18 remain in the application including independent claims 1, 8, and 14. New independent claim 19 and dependent claim 20 have been added.

Claims 4, 11, and 15 have been amended to overcome the claim objections. Claims 1-18 have been amended to overcome the 35 U.S.C. 112, second paragraph, rejections. Note that "a vehicle structure" is positively recited at claim 1, line 3, is positively recited at claim 8, line 3, and is positively recited at claim 14, line 3. Further the Examiner has questioned "how are the second and fourth tracks supported?" As recited in the claims, the second track is supported for movement relative to the first track and the fourth track is supported for movement relative to the third track. Adjustable track assemblies are well known in the art and the second and fourth tracks can be supported for movement relative to the first and third tracks by any means known in the art. No amendments are necessary to clarify this relationship under 35 U.S.C. 112. Thus, Applicant believes that all 35 U.S.C. 112, second paragraph, rejections have been overcome.

Claims 1-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Verma et al. (5,942,695) in view of Gagnon et al. (5,971,432). First, it is improper to modify Verma as taught by Gagnon. One of the benefits of Verma is that a weight sensing system is incorporated into the seat structure without significantly changing the seat structure, col. 1, lines 33-37. One prior art system that requires significant seat structure modification is the use of load cells between the seat frame and seat track, discussed in the “Background Of The Invention” section of Verma at col. 1, lines 23-30. Verma seeks to overcome the deficiency this load cell design by incorporating a bracket 16 into an existing seat and welding strain gages 30 to the bracket 16, col. 2, lines 29-34. The disclosed Gagnon system requires significant modification of seat structure and utilizes load cells 20 that are mounted to the seat frame 16, 18. It is improper to modify a reference when the modification destroys the benefits of the base reference. Gagnon teaches the use of a system that Verma seeks to avoid, thus it is improper to modify Verma as taught by Gagnon.

Second, even if Verma and Gagnon are properly combined, neither reference discloses the invention as set forth in claims 1-18. Claim 1 requires a second track supported for movement relative to a first track and being deflectable in a vertical direction due to an occupant weight force with at least one sensor mounted on the tracks for generating a signal representative of the occupant weight force. Verma does not disclose, suggest, or teach mounting sensors on seat tracks. Verma utilizes strain gages 30 that are welded to a seat bracket 16 that is mounted between a seat cushion support 14 and the seat tracks 26. Further, Verma does not disclose a system with deflectable seat tracks as claimed by applicant. Verma discloses measuring deflection of the bracket 16 not the tracks, col. 2, lines 43-53. Gagnon also does not disclose, suggest, or teach mounting sensors to seat tracks or having deflectable seat tracks.

Claim 8 requires sensor assemblies that generate signals in response to measuring deflection of track assemblies due to seat occupant weight. As discussed above with regard to claim 1, neither Verma nor Gagnon disclose, suggest, or teach such a feature.

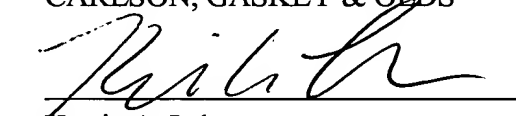
Claim 14 is a method claim including the steps of generating a first signal from the first sensor assembly in response to deflection of the inboard track assembly due to seat occupant weight and generating a second signal from the second sensor assembly in response to deflection of the outboard track assembly due to seat occupant weight. As discussed above with regard to claim 1, neither Verma nor Gagnon disclose, suggest, or teach such a feature.

Further, claims 9 and 14 require the track assembly to be defined by a predetermined cross-sectional area with the track assembly having at least one track segment with a cross-sectional area that is less than the predetermined cross-sectional area. The Examiner does not indicate where in any of the references this feature is disclosed. The drawings in both Verma and Gagnon indicate that the track assemblies are uniform and constant in cross-section along their length.

For the reasons set forth above, all claims should be allowed. An indication of such is requested. A check is enclosed herewith to cover the cost of one additional independent claim. Applicant believes that no additional fees are necessary however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,

CARLSON, GASKEY & OLDS

A handwritten signature in dark ink, appearing to read 'Kerrie A. Laba', is written over a horizontal line.

Kerrie A. Laba

Registration No. 42,777

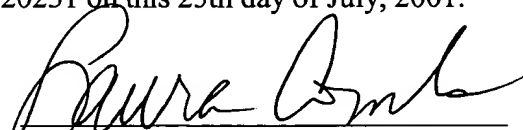
400 W. Maple Road, Ste. 350

Birmingham, MI 48009

(248) 988-8360

CERTIFICATE OF MAIL

I hereby certify that the enclosed Amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Assistant Commissioner of Patents, Washington D.C. 20231 on this 25th day of July, 2001.



Laura Combs